

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/920,954

DATE: 12/07/2001

TIME: 12:17:49

Input Set : N:\Crf3\RULE60\09920954.txt

Output Set: N:\CRF3\12072001\I920954.raw

3 <110> APPLICANT: TAKAIWA, MIKIO
 4 OKUDA, MITSUYOSHI
 5 SAEKI, KATSUHISA
 6 KUBOTA, HIROMI
 7 HITOMI, JUN
 8 KAGEYAMA, YASUSHI
 9 SHIKATA, SHITSUW
 10 NOMURA, MASAFUMI
 12 <120> TITLE OF INVENTION: ALKALINE PROTEASE
 14 <130> FILE REFERENCE: 0327-0832-0PCT
 16 <140> CURRENT APPLICATION NUMBER: 09/920,954
 17 <141> CURRENT FILING DATE: 2001-08-03
 19 <150> PRIOR APPLICATION NUMBER: 09/509,814
 20 <151> PRIOR FILING DATE: 2000-04-06
 22 <150> PRIOR APPLICATION NUMBER: PCT/JP98/04528
 23 <151> PRIOR FILING DATE: 1998-10-07
 25 <150> PRIOR APPLICATION NUMBER: JP 9-274570
 26 <151> PRIOR FILING DATE: 1997-06-08
 28 <160> NUMBER OF SEQ ID NOS: 24
 30 <170> SOFTWARE: PatentIn version 3.0
 32 <210> SEQ ID NO: 1
 33 <211> LENGTH: 639
 34 <212> TYPE: PRT
 35 <213> ORGANISM: Bacillus sp.
 37 <220> FEATURE:
 38 <221> NAME/KEY: misc_feature
 39 <222> LOCATION: (23)..(23)
 40 <223> OTHER INFORMATION: Xaa is any amino acid
 43 <220> FEATURE:
 44 <221> NAME/KEY: misc_feature
 45 <222> LOCATION: (29)..(29)
 46 <223> OTHER INFORMATION: Xaa is any amino acid
 49 <220> FEATURE:
 50 <221> NAME/KEY: misc_feature
 51 <222> LOCATION: (32)..(32)
 52 <223> OTHER INFORMATION: Xaa is any amino acid
 55 <220> FEATURE:
 56 <221> NAME/KEY: misc_feature
 57 <222> LOCATION: (46)..(46)
 58 <223> OTHER INFORMATION: Xaa is any amino acid
 61 <220> FEATURE:
 62 <221> NAME/KEY: misc_feature
 63 <222> LOCATION: (47)..(47)
 64 <223> OTHER INFORMATION: Xaa is any amino acid
 67 <220> FEATURE:
 68 <221> NAME/KEY: misc_feature
 69 <222> LOCATION: (53)..(53)

ENTERED

RAW SEQUENCE LISTING

DATE: 12/07/2001

PATENT APPLICATION: US/09/920,954

TIME: 12:17:49

Input Set : N:\Crf3\RULE60\09920954.txt

Output Set: N:\CRF3\12072001\I920954.raw

70 <223> OTHER INFORMATION: Xaa is any amino acid
73 <220> FEATURE:
74 <221> NAME/KEY: misc_feature
75 <222> LOCATION: (70)..(70)
76 <223> OTHER INFORMATION: Xaa is any amino acid
79 <220> FEATURE:
80 <221> NAME/KEY: misc_feature
81 <222> LOCATION: (74)..(74)
82 <223> OTHER INFORMATION: Xaa is any amino acid
85 <220> FEATURE:
86 <221> NAME/KEY: misc_feature
87 <222> LOCATION: (89)..(89)
88 <223> OTHER INFORMATION: Xaa is any amino acid
91 <220> FEATURE:
92 <221> NAME/KEY: misc_feature
93 <222> LOCATION: (102)..(102)
94 <223> OTHER INFORMATION: Xaa is any amino acid
97 <220> FEATURE:
98 <221> NAME/KEY: misc_feature
99 <222> LOCATION: (105)..(105)
100 <223> OTHER INFORMATION: Xaa is any amino acid
103 <220> FEATURE:
104 <221> NAME/KEY: misc_feature
105 <222> LOCATION: (128)..(128)
106 <223> OTHER INFORMATION: Xaa is any amino acid
109 <220> FEATURE:
110 <221> NAME/KEY: misc_feature
111 <222> LOCATION: (130)..(130)
112 <223> OTHER INFORMATION: Xaa is any amino acid
115 <220> FEATURE:
116 <221> NAME/KEY: misc_feature
117 <222> LOCATION: (131)..(131)
118 <223> OTHER INFORMATION: Xaa is any amino acid
121 <220> FEATURE:
122 <221> NAME/KEY: misc_feature
123 <222> LOCATION: (132)..(132)
124 <223> OTHER INFORMATION: Xaa is any amino acid
127 <220> FEATURE:
128 <221> NAME/KEY: misc_feature
129 <222> LOCATION: (133)..(133)
130 <223> OTHER INFORMATION: Xaa is any amino acid
133 <220> FEATURE:
134 <221> NAME/KEY: misc_feature
135 <222> LOCATION: (146)..(146)
136 <223> OTHER INFORMATION: Xaa is any amino acid
139 <220> FEATURE:
140 <221> NAME/KEY: misc_feature
141 <222> LOCATION: (148)..(148)
142 <223> OTHER INFORMATION: Xaa is any amino acid

RAW SEQUENCE LISTING

DATE: 12/07/2001

PATENT APPLICATION: US/09/920,954

TIME: 12:17:49

Input Set : N:\Crf3\RULE60\09920954.txt

Output Set: N:\CRF3\12072001\I920954.raw

145 <220> FEATURE:
146 <221> NAME/KEY: misc_feature
147 <222> LOCATION: (160)..(160)
148 <223> OTHER INFORMATION: Xaa is any amino acid
151 <220> FEATURE:
152 <221> NAME/KEY: misc_feature
153 <222> LOCATION: (165)..(165)
154 <223> OTHER INFORMATION: Xaa is any amino acid
157 <220> FEATURE:
158 <221> NAME/KEY: misc_feature
159 <222> LOCATION: (172)..(172)
160 <223> OTHER INFORMATION: Xaa is any amino acid
163 <220> FEATURE:
164 <221> NAME/KEY: misc_feature
165 <222> LOCATION: (183)..(183)
166 <223> OTHER INFORMATION: Xaa is any amino acid
169 <220> FEATURE:
170 <221> NAME/KEY: misc_feature
171 <222> LOCATION: (187)..(187)
172 <223> OTHER INFORMATION: Xaa is any amino acid
175 <220> FEATURE:
176 <221> NAME/KEY: misc_feature
177 <222> LOCATION: (188)..(188)
178 <223> OTHER INFORMATION: Xaa is any amino acid
181 <220> FEATURE:
182 <221> NAME/KEY: misc_feature
183 <222> LOCATION: (189)..(189)
184 <223> OTHER INFORMATION: Xaa is any amino acid
187 <220> FEATURE:
188 <221> NAME/KEY: misc_feature
189 <222> LOCATION: (194)..(194)
190 <223> OTHER INFORMATION: Xaa is any amino acid
193 <220> FEATURE:
194 <221> NAME/KEY: misc_feature
195 <222> LOCATION: (286)..(286)
196 <223> OTHER INFORMATION: Xaa is any amino acid
199 <220> FEATURE:
200 <221> NAME/KEY: misc_feature
201 <222> LOCATION: (306)..(306)
202 <223> OTHER INFORMATION: Xaa is any amino acid
205 <220> FEATURE:
206 <221> NAME/KEY: misc_feature
207 <222> LOCATION: (324)..(324)
208 <223> OTHER INFORMATION: Xaa is any amino acid
211 <220> FEATURE:
212 <221> NAME/KEY: misc_feature
213 <222> LOCATION: (369)..(369)
214 <223> OTHER INFORMATION: Xaa is any amino acid
217 <220> FEATURE:

RAW SEQUENCE LISTING

DATE: 12/07/2001

PATENT APPLICATION: US/09/920,954

TIME: 12:17:49

Input Set : N:\Crf3\RULE60\09920954.txt

Output Set: N:\CRF3\12072001\I920954.raw

218 <221> NAME/KEY: misc_feature
219 <222> LOCATION: (431)..(431)
220 <223> OTHER INFORMATION: Xaa is any amino acid
223 <220> FEATURE:
224 <221> NAME/KEY: misc_feature
225 <222> LOCATION: (501)..(501)
226 <223> OTHER INFORMATION: Xaa is any amino acid
229 <220> FEATURE:
230 <221> NAME/KEY: misc_feature
231 <222> LOCATION: (531)..(531)
232 <223> OTHER INFORMATION: Xaa is any amino acid
235 <220> FEATURE:
236 <221> NAME/KEY: misc_feature
237 <222> LOCATION: (541)..(541)
238 <223> OTHER INFORMATION: Xaa is any amino acid
241 <220> FEATURE:
242 <221> NAME/KEY: misc_feature
243 <222> LOCATION: (584)..(584)
244 <223> OTHER INFORMATION: Xaa is any amino acid
247 <220> FEATURE:
248 <221> NAME/KEY: misc_feature
249 <222> LOCATION: (591)..(591)
250 <223> OTHER INFORMATION: Xaa is any amino acid
253 <220> FEATURE:
254 <221> NAME/KEY: misc_feature
255 <222> LOCATION: (592)..(592)
256 <223> OTHER INFORMATION: Xaa is any amino acid
259 <220> FEATURE:
260 <221> NAME/KEY: misc_feature
261 <222> LOCATION: (594)..(594)
262 <223> OTHER INFORMATION: Xaa is any amino acid
265 <220> FEATURE:
266 <221> NAME/KEY: misc_feature
267 <222> LOCATION: (595)..(595)
268 <223> OTHER INFORMATION: Xaa is any amino acid
271 <220> FEATURE:
272 <221> NAME/KEY: misc_feature
273 <222> LOCATION: (596)..(596)
274 <223> OTHER INFORMATION: Xaa is any amino acid
277 <220> FEATURE:
278 <221> NAME/KEY: misc_feature
279 <222> LOCATION: (611)..(611)
280 <223> OTHER INFORMATION: Xaa is any amino acid
283 <220> FEATURE:
284 <221> NAME/KEY: misc_feature
285 <222> LOCATION: (632)..(632)
286 <223> OTHER INFORMATION: Xaa is any amino acid
289 <400> SEQUENCE: 1
291 Met Arg Lys Lys Lys Val Phe Leu Ser Val Leu Ser Ala Ala Ala Ile

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/920,954

DATE: 12/07/2001

TIME: 12:17:49

Input Set : N:\Crf3\RULE60\09920954.txt

Output Set: N:\CRF3\12072001\I920954.raw

```

      292 1          5          10          15
W--> 294 Leu Ser Thr Val Ala Leu Xaa Asn Pro Ser Ala Gly Xaa Ala Arg Xaa
      295          20          25          30
W--> 297 Phe Asp Leu Asp Phe Lys Gly Ile Gln Thr Thr Thr Asp Xaa Xaa Gly
      298          35          40          45
W--> 300 Phe Ser Lys Gln Xaa Gln Thr Gly Ala Ala Ala Phe Leu Val Glu Ser
      301          50          55          60
W--> 303 Glu Asn Val Lys Leu Xaa Lys Gly Leu Xaa Lys Lys Leu Glu Thr Val
      304 65          70          75          80
W--> 306 Pro Ala Asn Asn Lys Leu His Ile Xaa Gln Phe Asn Gly Pro Ile Leu
      307          85          90          95
W--> 309 Glu Glu Thr Lys Gln Xaa Leu Glu Xaa Thr Gly Ala Lys Ile Leu Asp
      310          100          105          110
W--> 312 Tyr Ile Pro Asp Tyr Ala Tyr Ile Val Glu Tyr Glu Gly Asp Val Xaa
      313          115          120          125
W--> 315 Ser Xaa Xaa Xaa Xaa Ile Glu His Val Glu Ser Val Glu Pro Tyr Leu
      316          130          135          140
W--> 318 Pro Xaa Tyr Xaa Ile Asp Pro Gln Leu Phe Thr Lys Gly Ala Ser Xaa
      319 145          150          155          160
W--> 321 Leu Val Lys Ala Xaa Ala Leu Asp Thr Lys Gln Xaa Asn Lys Glu Val
      322          165          170          175
W--> 324 Gln Leu Arg Gly Ile Glu Xaa Ile Ala Gln Xaa Xaa Xaa Ser Asn Asp
      325          180          185          190
W--> 327 Val Xaa Tyr Ile Thr Ala Lys Pro Glu Tyr Lys Val Met Asn Asp Val
      328          195          200          205
      330 Ala Arg Gly Ile Val Lys Ala Asp Val Ala Gln Ser Ser Tyr Gly Leu
      331          210          215          220
      333 Tyr Gly Gln Gly Gln Ile Val Ala Val Ala Asp Thr Gly Leu Asp Thr
      334 225          230          235          240
      336 Gly Arg Asn Asp Ser Ser Met His Glu Ala Phe Arg Gly Lys Ile Thr
      337          245          250          255
      339 Ala Leu Tyr Ala Leu Gly Arg Thr Asn Asn Ala Asn Asp Thr Asn Gly
      340          260          265          270
W--> 342 His Gly Thr His Val Ala Gly Ser Val Leu Gly Asn Gly Xaa Thr Asn
      343          275          280          285
      345 Lys Gly Met Ala Pro Gln Ala Asn Leu Val Phe Gln Ser Ile Met Asp
      346          290          295          300
W--> 348 Ser Xaa Gly Gly Leu Gly Gly Leu Pro Ser Asn Leu Gln Thr Leu Phe
      349 305          310          315          320
W--> 351 Ser Gln Ala Xaa Ser Ala Gly Ala Arg Ile His Thr Asn Ser Trp Gly
      352          325          330          335
      354 Ala Ala Val Asn Gly Ala Tyr Thr Thr Asp Ser Arg Asn Val Asp Asp
      355          340          345          350
      357 Tyr Val Arg Lys Asn Asp Met Thr Ile Leu Phe Ala Ala Gly Asn Glu
      358          355          360          365
W--> 360 Xaa Pro Asn Gly Gly Thr Ile Ser Ala Pro Gly Thr Ala Lys Asn Ala
      361          370          375          380
      363 Ile Thr Val Gly Ala Thr Glu Asn Leu Arg Pro Ser Phe Gly Ser Tyr
      364 385          390          395          400

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/920,954

DATE: 12/07/2001

TIME: 12:17:50

Input Set : N:\Crf3\RULE60\09920954.txt

Output Set: N:\CRF3\12072001\I920954.raw

L:294 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:297 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:300 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:303 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:306 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:309 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:312 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:315 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:318 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:321 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:324 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:327 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:342 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:348 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:351 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:360 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:369 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:384 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:390 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:399 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:402 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:405 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:408 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:676 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:679 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:682 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:685 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:688 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:691 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:694 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:700 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:703 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:706 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:709 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:712 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:727 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:733 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:736 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:745 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:754 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:769 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:775 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:784 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:787 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:790 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:793 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:1873 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:14
L:1906 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14

VERIFICATION SUMMARY

DATE: 12/07/2001

PATENT APPLICATION: US/09/920,954

TIME: 12:17:50

Input Set : N:\Crf3\RULE60\09920954.txt

Output Set: N:\CRF3\12072001\I920954.raw

L:1912 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:15
L:1939 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:1945 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:16
L:1972 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:1978 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:17
L:2023 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:2029 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:18
L:2074 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:19
L:2101 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:20
L:2128 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:21
L:2143 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:22
L:2158 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:23
L:2173 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:24